SCH4U - What You Need to Know for the Unit 2 Test
(Unit 2 test: Tuesday, April 17, 2018)

- Pauli Exclusion principle and Hund's rule - apply these to filling orbitals
- Be able to represent electrons in orbitals with electron configurations and orbital diagram/energy level diagram.
- Periodic table patterns (atomic radius, ionization energy, electron affinity, effective nuclear charge and the factors affecting them) and using electron configurations to explain trends and/or deviations from trends.
- Be able to identify the type of chemical bonding (ionic, covalent, metallic) between two elements (using electronegativity, using the type of the atoms bonded together).
- Be able to identify the type of intermolecular forces present between two compounds and how they explain its physical properties (be able to rank compounds with respect to their melting points, solubility, etc.)
- Be able to identify and explain the type of intermolecular forces present between two compounds of the same or different polarities.
- Be able to explain the physical properties of metals, ionic compounds, covalent compounds with respect to their bonding
- Be able to draw complete Lewis structures for covalent compounds (including polyatomic ions) and be able to draw Lewis diagrams for ionic compounds.
- Be able to use VSPEP to determine electron pair arrangement, molecular shape, bond angles, and polarity.
- Be able to explain orbital hybridization (needed for lone pairs & sigma bonds) and draw orbital diagrams for this (ground, excited & hybridized states)
- How do double and triple bonds occur (unhybridized p orbitals overlapping in perpendicular plane to sigma bonds)
- Types of solids (including allotropes and covalent network solids) and the intermolecular forces that hold them together.